

In the Claims

1. (currently amended) A system for dermatological examination of the skin tissue of a patient comprising:

means for maintaining an area of the skin tissue under stress by application of force against a plate; and

an imaging head, coupled to said maintaining means, capable of producing one or more images representing optically formed sections of said stressed skin tissue from light returned through said plate from focused light under the surface of said skin tissue to provide therewith an integrated assembly in which said stress applied to said tissue stabilizes said skin tissue with respect to said imaging head, wherein said imaging head comprises at least an objective lens for focusing the light under the surface of said skin tissue and collecting the returned light through said plate, and at least one actuator capable of moving said objective lens to change location of said focusing in said tissue.

2. (currently amended) The system according to Claim 1 wherein said maintaining means further comprises:

a platen which is positionable with respect to said patient, said platen having an orifice, and said imaging head being coupled to said platen and positioned for imaging through said orifice and said plate; and

first means for moving said platen from an up position in which said platen is spaced from said patient to a down position onto the surface of said skin tissue of the patient, whereby in said down position the force of said platen provides said stressed skin tissue within said orifice.

3. (original) The system according to Claim 2 wherein said maintaining means further comprises:

second means coupled to said platen for moving said platen with respect to said patient and temporarily fixing the position of said platen so that said skin tissue to be imaged is located within said orifice when said first means moves said platen to said down position.

4. (previously presented) A system for dermatological examination of the skin tissue of a patient comprising:

means for maintaining an area of the skin tissue under stress by application of force, and an imaging head, coupled to said maintaining means, capable of imaging a section of said stressed skin tissue to provide therewith an integrated assembly, wherein said maintaining means further comprises:

a platen which is positionable with respect to said patient, said platen having an orifice, and said imaging head being coupled to said platen and positioned for imaging through said orifice;

first means for moving said platen from an up position in which said platen is spaced from said patient to a down position onto the surface of said skin tissue of the patient, whereby in said down position the force of said platen provides said stressed skin tissue within said orifice; and

second means coupled to said platen for moving said platen with respect to said patient and temporarily fixing the position of said platen so that said skin tissue to be imaged is located within said orifice when said first means moves said platen to said down position, wherein said second means further comprises:

a table having a surface supporting said patient and two opposing sides spaced apart from each other on opposite sides of said patient;

two first rails, each of said first rails being parallel to each other and located upon a different one of said opposing sides;

two second rails orthogonal to said first rails which are parallel to each other and movable together along said first rails;

a carriage supporting said platen which is movable along said second rails; means for locking said second rails at a position with respect to said first rails; and

means for locking said carriage at a position with respect to said second rails.

5. (original) The system according to Claim 4 wherein said first means comprises a plurality of rods coupling said platen to said carriage for positioning said platen in one of said up and down positions.

6. (original) The system according to Claim 2 wherein said maintaining means further comprises:

means coupled to said imaging head and said platen for translating said imaging head with respect to said orifice of said platen.

7. (previously presented) A system for dermatological examination of the skin tissue of a patient comprising:

means for maintaining an area of the skin tissue under stress by application of force, and an imaging head, coupled to said maintaining means, capable of imaging a section of said stressed skin tissue to provide therewith an integrated assembly, wherein said maintaining means further comprises:

a platen which is positionable with respect to said patient, said platen having an orifice, and said imaging head being coupled to said platen and positioned for imaging through said orifice;

first means for moving said platen from an up position in which said platen is spaced from said patient to a down position onto the surface of said skin tissue of the patient, whereby in said down position the force of said platen provides said stressed skin tissue within said orifice; and

means coupled to said imaging head and said platen for translating said imaging head with respect to said orifice of said platen, wherein said platen further comprises a recording media, and said translating mean further comprises a translation stage and a marker coupled to said translation stage which is positioned over said media to record the motion of said translating stage as it moves said imaging head over said stressed tissue within said orifice.

8. (previously presented) The system according to Claim 2 wherein said orifice has said plate positioned therein.

9-18. (cancelled)

19. (original) The system according to Claim 1 wherein said imaging head is a confocal imaging head having confocal imaging optics for providing images of section of said stressed skin tissue.

20. (currently amended) An apparatus for stabilizing the skin tissue of a patient to an imaging head comprising:

a platen having an orifice;

first means for moving said platen from an up position in which said platen is spaced from said patient to a down position onto the surface of said skin tissue of the patient; and

second means for moving said platen over the patient and temporarily fixing the position of the platen with respect to said patient wherein the skin tissue to be imaged via said orifice by said imaging head is stabilized ~~within said orifice~~ when said platen is in a down position, and wherein when said platen is in said down position said orifice provides an open unsealed space over said skin tissue.

21. (original) The system according to Claim 20 wherein said second means further comprises:

a table having a surface supporting said patient and two opposing sides spaced apart from each other on opposite sides of said patient;

two first rails, each of said first rails being parallel to each other and located upon a different one of said opposing sides;

two second rails orthogonal to said first rails which are parallel to each other and movable together along said first rails;

a carriage supporting said platen which is movable along said second rails;

means for locking said second rails at a position with respect to said first rails; and

means for locking said carriage at a position with respect to said second rails.

22. (original) The system according to Claim 21 wherein said first means comprises a plurality of rods coupling said platen to said carriage for positioning said platen in one of said up and down positions.

23. (previously presented) The system according to Claim 20 wherein said maintaining means further comprises:

means, coupled to said imaging head and said platen, for translating said imaging head with respect to said orifice of said platen.

24-25. (cancelled)

26. (currently amended) A system for examining tissue comprising:

means for maintaining an area of the tissue under stress by application of force of a plate upon said tissue; and

an imaging head, coupled to said maintaining means, capable of imaging said stressed tissue through said plate from light returned from a scanned focal spot through said tissue to provide an image of a section, wherein said imaging head comprises at least an objective lens for focusing the light under the surface of said skin tissue and collecting the returned light through said plate, and at least one actuator capable of moving said objective lens to change location of said focusing in said tissue.

27. (previously presented) The system according to Claim 1 wherein said maintaining means comprises a platen having means through which said tissue is imaged by said imaging head.

28. (previously presented) The system according to Claim 27 wherein said platen is positionable with respect to said tissue.

29. (previously presented) The system according to Claim 1 further comprising means for fixing the position of said maintaining means with respect to said patient.

30. (previously presented) The system according to Claim 1 wherein said imaging head is movable with respect to said maintaining means to position said imaging head with respect to said stressed tissue.

31. (previously presented) The system according to Claim 1 wherein said maintaining means applies force against at least the edges of said area of the skin tissue.

32. (previously presented) The system according to Claim 26 wherein said tissue represents one of skin tissue and internal tissue.

33. (previously presented) The system according to Claim 26 wherein said maintaining means applies force against at least the edges of said area of the tissue.

34. (previously presented) The system according to Claim 26 wherein said imaging head is movable with respect to said maintaining means to position said imaging head with respect to said stressed tissue.

35. (currently amended) A method for examination of tissue comprising the steps of:
providing a platen having an opening with a plate;
maintaining an area of the tissue under stress by application of said platen upon said tissue; and

optically forming one or more images of a section of said stressed tissue via an objective lens through said opening of said platen from light returned from focused light under the surface of said skin tissue in which said stress applied to said tissue promotes stabilization of said tissue with respect to images produced by said imaging step; and

positioning said objective lens within a housing having said objective lens to adjust at least the depth of said images of said sections in said skin tissue.

36. (previously presented) The method according to Claim 35 further comprising the step of:

positioning said platen with respect to the area of the tissue to be imaged.

37-41. (cancelled)

42. (previously presented) The system according to Claim 1 wherein said section represents one of a horizontal, vertical or angled section through said tissue.

43. (currently amended) An apparatus for dermatological examination of the tissue of a patient comprising:

means for maintaining an area of the skin tissue under stress by application of force against a plate; and

means for imaging said tissue through said plate, said imaging means being coupled to said maintaining means and capable of producing images representing optically formed sections through different planes of said stressed tissue in which said stress applied to said tissue stabilizes said tissue with respect to said imaging head, in which said imaging means comprises optics and said maintaining means limits view of said tissue by said optics, wherein said optics are movable to focus and collect light from different locations of said tissue in said limited view provided by said maintaining means.

44. (previously presented) The system according to Claim 43 wherein said sections are one of horizontal, vertical, or angled sections through said different planes of said stressed tissue.

45. (previously presented) The system according to Claim 43 wherein said imaging means images said sections of said stressed skin tissue from light returned from focused light under the surface of said tissue.

46. (previously presented) The system according to Claim 43 wherein said maintaining means represents one of a platen, brace, or deformable diaphragm.

47. (currently amended) A system for examination of tissue of a patient comprising:
a member having a surface, said member being positionable for compressing and maintaining an area of the tissue under stress by application of force against said surface, in which said member has an opening;

~~an opening in said member~~ having a material window; and

an imaging head, coupled to said member, capable of producing one or more images representing optically formed sections at desired orientations and depths within said stressed tissue from light returned through said opening and said material window from focused light under the surface of said tissue, in which said stress applied to said tissue stabilizes said tissue, wherein said imaging head comprises optics for focusing the light under the surface of said skin tissue through said opening and said window, and collecting the returned light through opening and said window, and said optics are movable to select at least the depth of said images of said sections in said skin tissue within said opening.

48. (previously presented) The system according to Claim 47 wherein said surface of said member is one of flat, curved, or deformable.

49. (new) A system for examination of tissue of a patient comprising:
a member positionable against tissue for compressing and maintaining an area of the tissue under stress by application of a non-suctioning force, in which said member has an opening;
a material window; and
an imaging head, coupled to said member, capable of producing one or more images representing optically formed sections within said stressed tissue via said opening and said material window, in which said stress applied to said tissue stabilizes said tissue.

50. (new) The system according to Claim 49 wherein said member is one of a platen or brace.

51. (new) The apparatus according to Claim 20 wherein said apparatus further comprises a material window in which the skin tissue is imagable by said imaging head through said material window and said orifice when said platen is in said down position.